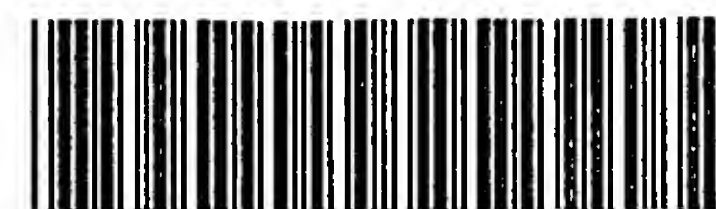


RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/587,085
Source: IFWP
Date Processed by STIC: 08/03/2006

ENTERED



IFWP

RAW SEQUENCE LISTING

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:07

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

3 <110> APPLICANT: KANEKA CORPORATION
 5 <120> TITLE OF INVENTION: PORYPEPTIDE HAVING AMIDASE ACTIVITY AND GENE THEREOF
 7 <130> FILE REFERENCE: 5404-161(B040008W001)
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/587,085
 C--> 9 <141> CURRENT FILING DATE: 2006-07-21
 9 <150> PRIOR APPLICATION NUMBER: PCT/JP2005/000951
 10 <151> PRIOR FILING DATE: 2005-01-26
 12 <150> PRIOR APPLICATION NUMBER: JP2004-028041
 13 <151> PRIOR FILING DATE: 2004-02-04
 15 <160> NUMBER OF SEQ ID NOS: 11
 17 <170> SOFTWARE: PatentIn version 3.1
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 388
 21 <212> TYPE: PRT
 22 <213> ORGANISM: Arthrobacter sp.
 24 <400> SEQUENCE: 1
 25 Met Ser Arg Leu Leu Arg Glu His Gly Ile Val Ile Gly Arg Leu Gln
 26 1 5 10 15
 28 Pro Gly Ser Leu Asn Thr Ile Ala Asp Val Ala Gly Val Arg Val Gly
 29 20 25 30
 31 His Ser Thr Ile Met Arg Gly Ser Gly Pro Leu Ser Ile Gly His Gly
 32 35 40 45
 34 Pro Val Arg Thr Gly Val Thr Ala Ile Ile Pro His Glu Gly Asp Ile
 35 50 55 60
 37 Trp Glu Glu Pro Arg Phe Ala Gly Val Phe Ser Leu Asn Gly Ser Gly
 38 65 70 75 80
 40 Glu Trp Ser Gly Thr Ser Phe Val Arg Glu Thr Gly Cys Leu Tyr Gly
 41 85 90 95
 43 Pro Ile Met Thr Thr Asn Ser His Ser Ile Gly Ser Val Arg Asn Ala
 44 100 105 110
 46 Val Ile Lys Arg Glu Val Ala Arg Arg Gly Ser Leu Glu Arg Leu Pro
 47 115 120 125
 49 Leu Val Gly Glu Thr Phe Asp Gly Leu Leu Asn Asp Ile Ser Gly Met
 50 130 135 140
 52 His Val Lys Asp Glu His Val Ala Glu Ala Ile Asp Ser Ala Ser Ala
 53 145 150 155 160
 55 Asn Val Thr Glu Gly Asn Val Gly Gly Gly Thr Gly Asn Val Cys His
 56 165 170 175
 58 Gly Phe Lys Gly Gly Ile Gly Ser Ala Ser Arg Val Leu Gln Leu Gly
 59 180 185 190
 61 Glu Glu Thr Tyr Thr Leu Gly Val Leu Val Gln Ala Asn His Gly Leu
 62 195 200 205
 64 Arg Asp Glu Phe Gln Val Thr Gly Val Pro Val Gly Arg Leu Ile Ser

Cpg-6)

RAW SEQUENCE LISTING

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:07

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

```

65      210      215      220
67 Thr Asp Glu Ile Pro Leu Gly Pro Ser Gly Phe Asp Arg Arg Ser Ser
68 225      230      235      240
70 Pro His Lys Asn Ser Ile Leu Val Val Val Ala Thr Asp Ala Pro Leu
71      245      250      255
73 Leu Pro Gly Gln Leu Glu Arg Val Ala His Arg Ser Thr Leu Gly Ile
74      260      265      270
76 Ala Arg Asn Gly Ala Tyr Ala His Asn Leu Ser Gly Asp Leu Ala Leu
77      275      280      285
79 Ala Phe Ser Thr Cys Pro Gln Pro Val Ser Gly Tyr Asp Phe Gly Val
80      290      295      300
82 Asp Thr Ser Pro Gly Thr Ile Arg Ala Leu Pro Asn Ala Ala Thr Ala
83 305      310      315      320
85 Gly Leu Phe Glu Ala Ala Val Glu Ala Thr Glu Glu Ala Ile Val Ser
86      325      330      335
88 Ala Leu Val His Ala Asp Thr Cys Thr Gly Ile Asp Asp Arg Val Ala
89      340      345      350
91 Tyr Gly Leu Glu Ala Ala Arg Leu Ala Arg Ser Ile Ser Glu Tyr Arg
92      355      360      365
94 Gly Thr Gln Leu Tyr Pro Glu Lys Val Ser Asp Ser His Leu Glu Arg
95      370      375      380
97 Arg Ser Gln Pro
98 385
101 <210> SEQ ID NO: 2
102 <211> LENGTH: 1290
103 <212> TYPE: DNA
104 <213> ORGANISM: Arthrobacter sp.
106 <220> FEATURE:
107 <221> NAME/KEY: CDS
108 <222> LOCATION: (53)..(1219)
109 <223> OTHER INFORMATION: sequence coding for amidase
111 <400> SEQUENCE: 2
112 agcgcgtcgt ggactgggtg cagaaataca caggcgagcc cgaggacgaa aa atg agc      58
113                                     Met Ser
114                                     1
116 cgt ctg ctc cgt gag cac gga atc gtc atc ggt cgt ctc caa ccg ggt      106
117 Arg Leu Leu Arg Glu His Gly Ile Val Ile Gly Arg Leu Gln Pro Gly
118      5      10      15
120 tct ctg aac acc att gca gac gtc gca ggc gtt cgc gta ggc cat tca      154
121 Ser Leu Asn Thr Ile Ala Asp Val Ala Gly Val Arg Val Gly His Ser
122      20      25      30
124 aca atc atg cgc ggt tct ggg ccc ctg tcc atc ggc cat ggc cca gtt      202
125 Thr Ile Met Arg Gly Ser Gly Pro Leu Ser Ile Gly His Gly Pro Val
126 35      40      45      50
128 cgc aca ggg gta aca gcc atc atc cct cac gaa gga gac atc tgg gag      250
129 Arg Thr Gly Val Thr Ala Ile Ile Pro His Glu Gly Asp Ile Trp Glu
130      55      60      65
132 gag cca cgg ttc gcc ggc gtc ttc tcc ctg aat ggc agc ggt gaa tgg      298
133 Glu Pro Arg Phe Ala Gly Val Phe Ser Leu Asn Gly Ser Gly Glu Trp

```

RAW SEQUENCE LISTING

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:07

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

134				70				75				80					
136	agc	gga	acc	tcg	ttc	gtc	agg	gag	acc	ggg	tgt	ctt	tat	ggc	cct	atc	346
137	Ser	Gly	Thr	Ser	Phe	Val	Arg	Glu	Thr	Gly	Cys	Leu	Tyr	Gly	Pro	Ile	
138			85					90				95					
140	atg	acg	acg	aat	tcg	cac	agc	att	gga	tcg	gtc	agg	aac	gcc	gtc	atc	394
141	Met	Thr	Thr	Asn	Ser	His	Ser	Ile	Gly	Ser	Val	Arg	Asn	Ala	Val	Ile	
142		100						105				110					
144	aag	cgt	gaa	gta	gcc	cgg	cgg	gga	agc	ctg	gag	agg	ctc	cct	ctc	gtg	442
145	Lys	Arg	Glu	Val	Ala	Arg	Arg	Gly	Ser	Leu	Glu	Arg	Leu	Pro	Leu	Val	
146	115					120					125					130	
148	gga	gaa	acc	ttt	gat	ggc	cta	ctc	aat	gac	atc	agc	ggc	atg	cac	gtc	490
149	Gly	Glu	Thr	Phe	Asp	Gly	Leu	Leu	Asn	Asp	Ile	Ser	Gly	Met	His	Val	
150					135					140				145			
152	aag	gac	gaa	cac	gtg	gcc	gag	gcc	atc	gac	tcc	gcc	tcc	gca	aat	gtt	538
153	Lys	Asp	Glu	His	Val	Ala	Glu	Ala	Ile	Asp	Ser	Ala	Ser	Ala	Asn	Val	
154				150					155					160			
156	acc	gaa	ggc	aat	gtt	ggc	ggt	ggg	acc	gga	aat	gtt	tgt	cac	ggt	ttc	586
157	Thr	Glu	Gly	Asn	Val	Gly	Gly	Gly	Thr	Gly	Asn	Val	Cys	His	Gly	Phe	
158			165					170				175					
160	aaa	ggc	ggt	att	gga	agt	gcc	tcg	cgc	gtg	ttg	caa	ttg	ggc	gag	gaa	634
161	Lys	Gly	Gly	Ile	Gly	Ser	Ala	Ser	Arg	Val	Leu	Gln	Leu	Gly	Glu	Glu	
162		180					185					190					
164	acc	tac	act	ttg	ggg	gtt	ctc	gtc	caa	gcc	aac	cac	ggc	ctt	cgt	gac	682
165	Thr	Tyr	Thr	Leu	Gly	Val	Leu	Val	Gln	Ala	Asn	His	Gly	Leu	Arg	Asp	
166	195					200					205				210		
168	gaa	ttt	cag	gtg	acg	gga	gta	ccc	gtg	gga	agg	ctc	ata	tct	acg	gac	730
169	Glu	Phe	Gln	Val	Thr	Gly	Val	Pro	Val	Gly	Arg	Leu	Ile	Ser	Thr	Asp	
170					215					220			225				
172	gag	atc	ccc	ttg	ggg	cct	tca	ggt	ttt	gat	cga	agg	tct	tca	cca	cac	778
173	Glu	Ile	Pro	Leu	Gly	Pro	Ser	Gly	Phe	Asp	Arg	Arg	Ser	Ser	Pro	His	
174			230					235					240				
176	aaa	aac	agt	att	ctt	gtc	gtc	gtg	gca	acc	gac	gcg	cct	cta	cta	ccg	826
177	Lys	Asn	Ser	Ile	Leu	Val	Val	Val	Ala	Thr	Asp	Ala	Pro	Leu	Leu	Pro	
178			245					250				255					
180	ggc	caa	ctg	gaa	cgc	gtt	gct	cac	cgt	tct	acc	cta	ggc	att	gcc	cgt	874
181	Gly	Gln	Leu	Glu	Arg	Val	Ala	His	Arg	Ser	Thr	Leu	Gly	Ile	Ala	Arg	
182		260					265					270					
184	aat	ggt	gcc	tac	gcg	cac	aat	ctc	agc	ggc	gac	ctt	gca	ctt	gcg	ttc	922
185	Asn	Gly	Ala	Tyr	Ala	His	Asn	Leu	Ser	Gly	Asp	Leu	Ala	Leu	Ala	Phe	
186	275					280					285				290		
188	tcc	acc	tgc	ccg	cag	cct	gta	agc	ggt	tac	gat	ttc	gga	gtg	gat	aca	970
189	Ser	Thr	Cys	Pro	Gln	Pro	Val	Ser	Gly	Tyr	Asp	Phe	Gly	Val	Asp	Thr	
190					295					300				305			
192	agt	cct	ggg	acc	att	cgc	gcc	ctg	ccc	aac	gcc	gca	acg	gct	ggc	ctc	1018
193	Ser	Pro	Gly	Thr	Ile	Arg	Ala	Leu	Pro	Asn	Ala	Ala	Thr	Ala	Gly	Leu	
194				310				315				320					
196	ttc	gag	gcg	gcc	gtt	gag	gcc	act	gag	gaa	gcg	att	gtt	tcc	gcg	ctt	1066
197	Phe	Glu	Ala	Ala	Val	Glu	Ala	Thr	Glu	Glu	Ala	Ile	Val	Ser	Ala	Leu	
198			325					330				335					

RAW SEQUENCE LISTING

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:07

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

```

200 gtc cac gcc gac acc tgc acc ggg atc gat gac agg gtt gcc tat ggg      1114
201 Val His Ala Asp Thr Cys Thr Gly Ile Asp Asp Arg Val Ala Tyr Gly
202      340                      345                      350
204 ttg gag gcg gct cga ctt gct cgt tca att tcg gaa tat cga ggc acc      1162
205 Leu Glu Ala Ala Arg Leu Ala Arg Ser Ile Ser Glu Tyr Arg Gly Thr
206 355                      360                      365                      370
208 cag ctg tat ccg gag aaa gtg tcg gat tcc cat ctt gaa cga agg agc      1210
209 Gln Leu Tyr Pro Glu Lys Val Ser Asp Ser His Leu Glu Arg Arg Ser
210                      375                      380                      385
212 cag ccg tga ccgccgcgca gccaaagccaa gcaccacccc gggcaaaggc      1259
213 Gln Pro
216 cgggaaacgg tccaacctaa cacgcaacga t      1290
220 <210> SEQ ID NO: 3
221 <211> LENGTH: 1167
222 <212> TYPE: DNA
223 <213> ORGANISM: Arthrobacter sp.
225 <220> FEATURE:
226 <221> NAME/KEY: CDS
227 <222> LOCATION: (1)..(1167)
228 <223> OTHER INFORMATION: sequence coding for amidase
230 <400> SEQUENCE: 3
231 atg agc cgt ctg ctc cgt gag cac gga atc gtc atc ggt cgt ctc caa      48
232 Met Ser Arg Leu Leu Arg Glu His Gly Ile Val Ile Gly Arg Leu Gln
233 1                      5                      10                      15
235 ccg ggt tct ctg aac acc att gca gac gtc gca ggc gtt cgc gta ggc      96
236 Pro Gly Ser Leu Asn Thr Ile Ala Asp Val Ala Gly Val Arg Val Gly
237      20                      25                      30
239 cat tca aca atc atg cgc ggt tct ggg ccc ctg tcc atc ggc cat ggc      144
240 His Ser Thr Ile Met Arg Gly Ser Gly Pro Leu Ser Ile Gly His Gly
241      35                      40                      45
243 cca gtt cgc aca ggg gta aca gcc atc atc cct cac gaa gga gac atc      192
244 Pro Val Arg Thr Gly Val Thr Ala Ile Ile Pro His Glu Gly Asp Ile
245      50                      55                      60
247 tgg gag gag cca cgg ttc gcc ggc gtc ttc tcc ctg aat ggc agc ggt      240
248 Trp Glu Glu Pro Arg Phe Ala Gly Val Phe Ser Leu Asn Gly Ser Gly
249 65                      70                      75                      80
251 gaa tgg agc gga acc tcg ttc gtc agg gag acc ggg tgt ctt tat ggc      288
252 Glu Trp Ser Gly Thr Ser Phe Val Arg Glu Thr Gly Cys Leu Tyr Gly
253      85                      90                      95
255 cct atc atg acg acg aat tcg cac agc att gga tcg gtc agg aac gcc      336
256 Pro Ile Met Thr Thr Asn Ser His Ser Ile Gly Ser Val Arg Asn Ala
257      100                      105                      110
259 gtc atc aag cgt gaa gta gcc cgg cgg gga agc ctg gag agg ctc cct      384
260 Val Ile Lys Arg Glu Val Ala Arg Arg Gly Ser Leu Glu Arg Leu Pro
261      115                      120                      125
263 ctc gtg gga gaa acc ttt gat ggc cta ctc aat gac atc agc ggc atg      432
264 Leu Val Gly Glu Thr Phe Asp Gly Leu Leu Asn Asp Ile Ser Gly Met
265      130                      135                      140
267 cac gtc aag gac gaa cac gtg gcc gag gcc atc gac tcc gcc tcc gca      480

```

RAW SEQUENCE LISTING

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:07

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

268	His	Val	Lys	Asp	Glu	His	Val	Ala	Glu	Ala	Ile	Asp	Ser	Ala	Ser	Ala	
269	145					150					155					160	
271	aat	gtt	acc	gaa	ggc	aat	gtt	ggc	ggt	ggg	acc	gga	aat	gtt	tgt	cac	528
272	Asn	Val	Thr	Glu	Gly	Asn	Val	Gly	Gly	Gly	Thr	Gly	Asn	Val	Cys	His	
273					165					170					175		
275	ggt	ttc	aaa	ggc	ggt	att	gga	agt	gcc	tcg	cgc	gtg	ttg	caa	ttg	ggc	576
276	Gly	Phe	Lys	Gly	Gly	Ile	Gly	Ser	Ala	Ser	Arg	Val	Leu	Gln	Leu	Gly	
277				180					185					190			
279	gag	gaa	acc	tac	act	ttg	ggg	gtt	ctc	gtc	caa	gcc	aac	cac	ggc	ctt	624
280	Glu	Glu	Thr	Tyr	Thr	Leu	Gly	Val	Leu	Val	Gln	Ala	Asn	His	Gly	Leu	
281			195					200					205				
283	cgt	gac	gaa	ttt	cag	gtg	acg	gga	gta	ccc	gtg	gga	agg	ctc	ata	tct	672
284	Arg	Asp	Glu	Phe	Gln	Val	Thr	Gly	Val	Pro	Val	Gly	Arg	Leu	Ile	Ser	
285		210					215					220					
287	acg	gac	gag	atc	ccc	ttg	ggg	cct	tca	ggt	ttt	gat	cga	agg	tct	tca	720
288	Thr	Asp	Glu	Ile	Pro	Leu	Gly	Pro	Ser	Gly	Phe	Asp	Arg	Arg	Ser	Ser	
289	225					230					235				240		
291	cca	cac	aaa	aac	agt	att	ctt	gtc	gtc	gtg	gca	acc	gac	gcg	cct	cta	768
292	Pro	His	Lys	Asn	Ser	Ile	Leu	Val	Val	Val	Ala	Thr	Asp	Ala	Pro	Leu	
293				245						250					255		
295	cta	ccg	ggc	caa	ctg	gaa	cgc	gtt	gct	cac	cgt	tct	acc	cta	ggc	att	816
296	Leu	Pro	Gly	Gln	Leu	Glu	Arg	Val	Ala	His	Arg	Ser	Thr	Leu	Gly	Ile	
297			260						265					270			
299	gcc	cgt	aat	ggt	gcc	tac	gcg	cac	aat	ctc	agc	ggc	gac	ctt	gca	ctt	864
300	Ala	Arg	Asn	Gly	Ala	Tyr	Ala	His	Asn	Leu	Ser	Gly	Asp	Leu	Ala	Leu	
301			275					280					285				
303	gcg	ttc	tcc	acc	tgc	ccg	cag	cct	gta	agc	ggt	tac	gat	ttc	gga	gtg	912
304	Ala	Phe	Ser	Thr	Cys	Pro	Gln	Pro	Val	Ser	Gly	Tyr	Asp	Phe	Gly	Val	
305		290					295					300					
307	gat	aca	agt	cct	ggg	acc	att	cgc	gcc	ctg	ccc	aac	gcc	gca	acg	gct	960
308	Asp	Thr	Ser	Pro	Gly	Thr	Ile	Arg	Ala	Leu	Pro	Asn	Ala	Ala	Thr	Ala	
309	305					310					315				320		
311	ggc	ctc	ttc	gag	gcg	gcc	gtt	gag	gcc	act	gag	gaa	gcg	att	gtt	tcc	1008
312	Gly	Leu	Phe	Glu	Ala	Ala	Val	Glu	Ala	Thr	Glu	Glu	Ala	Ile	Val	Ser	
313				325						330					335		
315	gcg	ctt	gtc	cac	gcc	gac	acc	tgc	acc	ggg	atc	gat	gac	agg	gtt	gcc	1056
316	Ala	Leu	Val	His	Ala	Asp	Thr	Cys	Thr	Gly	Ile	Asp	Asp	Arg	Val	Ala	
317			340							345				350			
319	tat	ggg	ttg	gag	gcg	gct	cga	ctt	gct	cgt	tca	att	tcg	gaa	tat	cga	1104
320	Tyr	Gly	Leu	Glu	Ala	Ala	Arg	Leu	Ala	Arg	Ser	Ile	Ser	Glu	Tyr	Arg	
321			355					360					365				
323	ggc	acc	cag	ctg	tat	ccg	gag	aaa	gtg	tcg	gat	tcc	cat	ctt	gaa	cga	1152
324	Gly	Thr	Gln	Leu	Tyr	Pro	Glu	Lys	Val	Ser	Asp	Ser	His	Leu	Glu	Arg	
325		370					375					380					
327	agg	agc	cag	ccg	tga												1167
328	Arg	Ser	Gln	Pro													
329	385																
332	<210>	SEQ ID NO: 4															
333	<211>	LENGTH: 16															

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/587,085

DATE: 08/03/2006
TIME: 09:14:08

Input Set : A:\5404-161 Sequence Listing.txt
Output Set: N:\CRF4\08032006\J587085.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 2,11

Seq#:5; N Pos. 6,15

VERIFICATION SUMMARY

DATE: 08/03/2006

PATENT APPLICATION: US/10/587,085

TIME: 09:14:08

Input Set : A:\5404-161 Sequence Listing.txt

Output Set: N:\CRF4\08032006\J587085.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No

L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:351 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0

L:373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0